INSURV
Navigation & Operations
Decks
Inspection Gouge

NOTE: Use this Document in conjunction with the OP and NV Checklists as a Material Inspection Preparation Tool.

Last Updated 17 Sep 09

INSURV Combat Systems Material Inspections

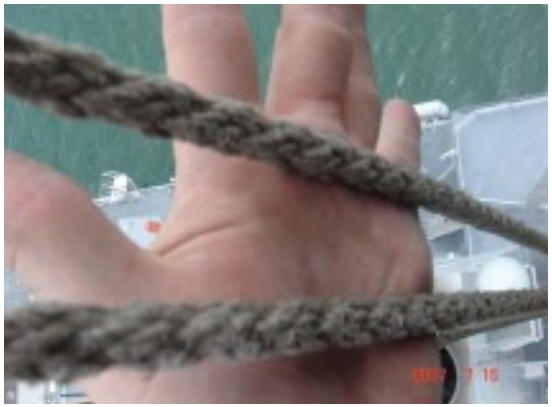
- **Operations Equipment:**
  - CDS Computer & Display Systems
    - Aegis CDS
    - SSDS
    - BFTT/BEWT
    - Radar Repeaters
    - ICMS, COMBATSS-21
  - Sensors
    - Air & Surface Search Radars
    - IFF
    - GFCS including EO&IR Sights
    - Fire Control Radars
  - C2W
    - SLQ-32, WBR-2000, ES-3601
    - SLA-10, ULQ-16, MUTE
    - SRBOC, NULKA, ALEX, TERMA SKWS
- **Operations Equipment:**
  - Support Equipment
    - Electronic Cooling Water Skids
    - Combat Dry Air
    - Combat Chill Water
  - Air Traffic Control Systems
    - TACAN
    - Marshalling Radars
    - Approach Radars
    - TPX-42 DAIR
  - Masts
    - Structural & Preservation Surveys
    - Installed Equipment Inspections
    - Antenna Checks

INSURV Combat Systems Material Inspections

- **Navigation Equipment: (See INSURVINST 4730.1)**
  - NAV Lights
  - Rudder Angle Indicator Accuracy
  - Pitch / EOT, Ship Control Console, Autopilot
  - Gyros/Gyro Repeaters, Navigation Benchmarks
  - Dead Reckoning Equipment
  - Flag Bags, Halyards, Day Shapes
  - Ships Whistle, Bell and Gong.
  - NAV Equipage
  - Yardarm Blinkers, AN/SAT-2, NVGs
  - NAVSSI, IBS/VMS, AIS, MOBI
  - GPS
  - UW Log/ Speed Indicators
  - Fathometer
  - Operable/Accurate Surface Search Radar
  - Magnetic Compass
  - Bridge-to-Bridge Radio
  - Window Wipers & Washers

NV Common Deficiencies

- Halyards
  - Not IAW NSTM 613
  - Plaited-polyester 1½” rope
  - Missing Belaying Pins
  - Corroded hardware



NV Common Deficiencies

- DFGMC
  - Out of spec
  - No rate of turn indication IAW NSTM
  - standard on ALL ships with current approved configuration
- Fathometer
  - Not maintained IAW PMS
  - Paper recorder functionality INOP – broken stylus, paper misalignment, fails R-3 PMS marking requirements
    - TSO Required
  - Impedances high or voltages high failing R-1 and R-2 PMS
  - Grounding Straps missing or installed incorrectly
  - Pushbuttons and lamps INOP on Fatho & ID-1566 repeaters
  - Signage not posted IAW NAVDORM

NV Common Deficiencies

- Psychrometer & Anemometer
  - Batteries not installed or INOP
    - Check before you have us inspect!
  - Corroded
- Barometer
  - Not calibrated or out of calibration; sticker not on gage face
  - Tamper seal broken
  - Not sampling outside ambient air
  - Loose in mount
- Ship’s Bell & Gong
  - No lanyard affixed or lanyard not long enough to be tied off to ground tackle to prevent inadvertent signaling
  - Clapper not adequately secured
  - Loose in Mount

NV Common Deficiencies

- Navigation Lights
  - Primary or Secondary filaments INOP
  - Cover screws or lanyards missing/ broken
  - Pedestals corroded
  - Reflector Screens not painted matte black in color IAW COLREGS
  - Water intrusion, failed gaskets or not sealed tightly
- Bridge Support Eqpt and Signaling Eqpt
  - Missing, damaged or poorly maintained.
  - Mildewed, dry-rotted or torn Dayshapes and Signal Flags
  - Equipage with broken or misaligned mirrors, sight vanes, moveable pieces
  - Batteries INOP and light filters/optics missing and damaged
  - Pedestal corrosion
  - Seized moving parts
  - Electric power cords not weatherproofed properly or conductive cables exposed
- Poor material condition of topside equipment (due to corrosion, lack of preservation or incorrect preservation).

NV Common Deficiencies

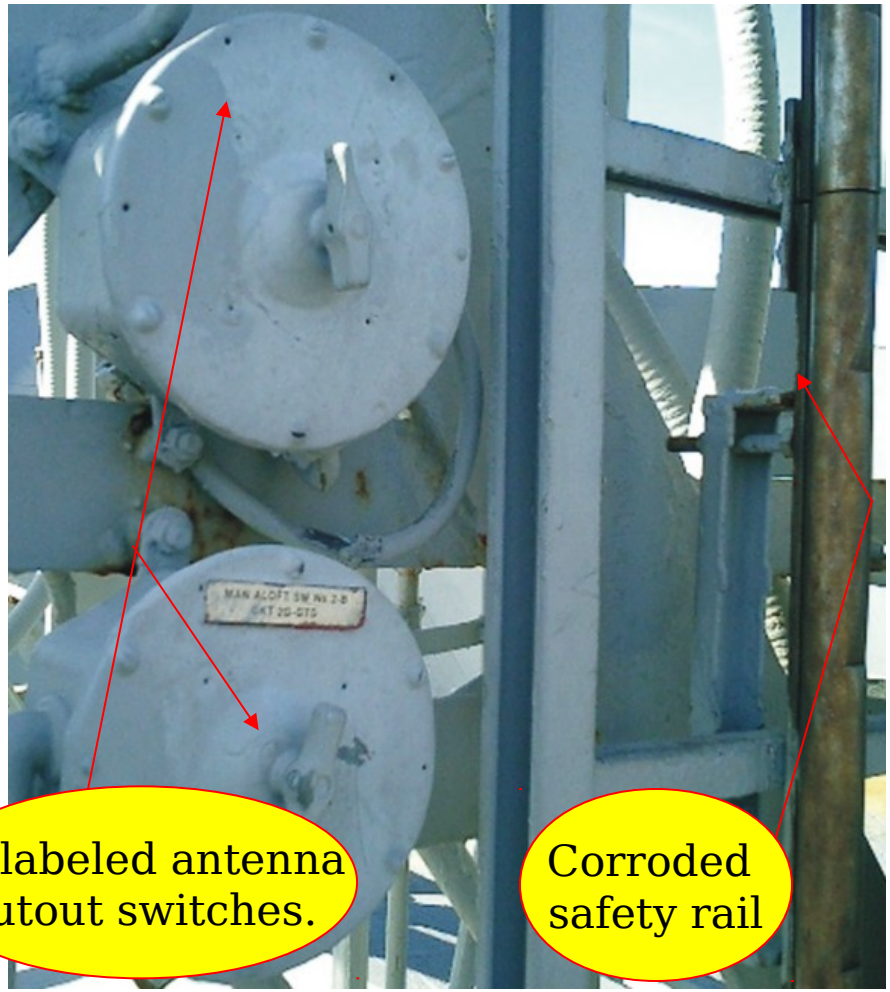
- RAI/ HAI
  - Not within NSTM accuracy specs
  - Dimmer and lights INOP
- Gyro Repeaters & Peloruses
  - Not within NSTM accuracy specs
  - Benchmark placards not posted
  - Nav Benchmarks illegible – corroded, painted over, etc.
  - Cables pulling out or not properly weatherproofed
  - Pedestal corrosion
  - Dimmer and lights INOP.

INSURV Aloft Lessons Learned

- Climber safety rails are not properly installed or maintained.
  - Stopper pins missing.
  - Bent rails
  - Ferrous hardware or connectors (corrosion)
- Parachute type safety harnesses, working lanyards, safety lanyards and climber safety sleeves are in poor or unsafe condition and PMS is not performed prior to use.
- Aloft areas are not maintained.
  - Corrosion & Paint failures
  - Non-skid failures
- Life lines and life rails are improperly constructed and are not maintained.
  - Missing, worn or broken
  - Ferrous & corroded hardware
  - Cracked or warped liferails
  - Safety staples not within reach of working areas

INSURV Aloft Lessons Learned

- Khakis should climb masts periodically!
- Examples include:
  - FOD such as nails, screws, wire
  - Inop or unlabeled antenna cutout switches – no system ID, no switch settings (SAFE, UNSAFE)
  - Missing or damaged safety devices
  - Extensive pedestal, & structural corrosion



OP Common Deficiencies

- CDS Computers and Displays (ACDS, SSDS, etc.)
  - Radar repeater video alignments required
  - CRT’s burnt out on radar repeaters & consoles
  - Pushbutton lamps inop, VABs/FABs inop
  - Trackball assemblies degraded
  - UPS & battery failures
  - Illegible displays
  - Cable ways not properly run, tags not in place, dead-ended cables
  - Failed Level 2 and Level 3 Diagnostics, POFAs, etc.
  - SSDS or AEGIS Baseline Program Instabilities
  - Setup issues – doctrine, software loads wrong configuration, etc.
- BFTT
  - Printer INOP or out of ink
  - Software faults
  - Physical damage to fiber cables and CCAs

OP Common Deficiencies

- IFF, Surface Search, Air Search, Fire Control, and Air Traffic Control Radars
  - Failed Power out, MDS, VSWR
  - Failed Bit and Diagnostics tests/ fault indicators
  - Antenna failures – corrosion, wear & tear, etc.
  - Cover screws missing, backshells, grounding straps
  - Perform AP checks prior to INSURV arrival and record findings.

OP Common Deficiencies

- SLQ-32
  - Failed ULM-4 or ULM-4 not completed within 60 days of INSURV (then required for underway demo during INSURV)
    - Complete prior to INSURV arrival and save a lot of time in your underway SOE
  - Sensitivities out of spec
  - Antenna preservation/ corrosion
  - Antenna pressurization out of spec
  - Cooling system degradations
- SRBOC/ NULKA
  - Night Loading lights INOP (safety issue)
  - Salvo Warning alarms INOP (safety issue)
  - Safe to Fire/ Safe to Load indications incorrect
  - Fail to fire from Bridge or CIC
  - Grounding straps and weatherproofing incorrect

OP Common Deficiencies

- TACAN
  - Pushbuttons burnt out
  - Power out is out of spec
  - Failed receiver sensitivity
  - Run the R-1 check and log findings for correction!
- Electronic Cooling Water/ Combat Dry Air
  - Gages out of Calibration, incorrectly marked NCR
  - Conductivity out of spec
  - Portable conductivity meter not present
  - Valves mislabeled, hand wheels missing or incorrectly painted
  - Flex hoses not proper type & hydrostatic inspection tags not present
  - Corrosion, leakage, and lagging damage